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Demonstration and technology transfer to producers implementing sustainable rotational grazing systems

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Demonstration and technology transfer to producers implementing sustainable rotational grazing systems

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$10,086 for year one
$9,550 for year two

Abstract: *All rotational grazing systems require fences, water, and forages. This project used hands-on demonstrations to show producers some of the options available for each of these components of a successful grazing system.*

Background

Rotational grazing systems can be very beneficial to the environment, provide an economic boost for farmers and the Iowa economy, and are sustainable with proper management. However, despite past educational efforts, some producers have resisted adopting a total rotational grazing system because of fears or concerns about one or more of the components. Farmers may think the fencing required in a grazing system will cost too much and require too much time and labor to install. Other producers are not aware of the possibilities for easily installing a water distribution system that will work for their livestock on their farm. Producers also may lack the management tools necessary for the establishment and maintenance of the diverse forage system needed to support rotational grazing. Construction of stream crossings is another issue that may be confusing to producers.

Producers learning about pumping and pipeline alternatives at a a water systems workshop.

The project organizers believed that if producers had an opportunity to work with some of these options they would realize that grazing systems are not as complicated or expensive as they had feared. Producers may be more likely to aggressively implement these components in their livestock operations if they can have personal experience with installing, constructing, or mapping out plans.

Project objectives were to:

1. Conduct a hands-on demonstration day for installing New Zealand-style electric fence,
2. Conduct a hands-on demonstration day for installing a water distribution system,
3. Incorporate warm-season native grasses into an existing grazing system to diversify the forage and lengthen the grazing season,
4. Demonstrate, in a multi-county area, the management necessary for establishment and maintenance of legumes into a grassed-based forage system using a no-till drill,
5. Incorporate kura clover into a rotational grazing system, and
6. Conduct hands-on demonstrations of establishing a stream crossing/access.

Approach and methods

1) Conduct a hands-on demonstration day for installing New Zealand-style electric fence. Producers located gates, stretched wire, and fastened it to the post. They learned how quickly and easily this type of fence could be installed. Additional area was incorporated into the Adams County Conservation Reserve Program (CRP) Farm grazing system and more fencing was installed there.

2) Conduct a hands-on demonstration day for installing a water distribution system. Participants installed waterlines and attached snap couplers. They learned how to measure water flow to determine if the system is adequate for the livestock using it. An additional distribution link was established at the Adams County CRP Farm in 2001.

3) Incorporate warm-season native grasses into an existing grazing system to diversify the forage and lengthen the grazing season. Producers with reservations about establishing and using warm-season grass walked the pasture and saw the forage. They learned how the grasses were established and saw the differences between growth patterns in warm- and cool-season varieties during the grazing season. They were advised on how to manage the system to take advantage of the differences. Producers walked through stands of warm- and cool-season grasses at the Adams County CRP Farm in 2001 and 2002.

4) Demonstrate, in a multi-county area, the management necessary for establishment and maintenance of legumes into a grassed-based forage using a no-till drill. Producers were taken to local pastures where they could observe how existing grass pastures were managed while establishing the legumes. Participants also heard about their neighbors' experiences working with grass pastures and the management they used when interseeding legumes.

Farmers ask, "I don't understand the new fence technology and why and how to take water to my livestock instead of them coming to the water. How does that technology work and am I able to set it up myself? I'd like to have more legumes in my pasture, but how do I get them started without tearing up my whole pasture? How do I manage the legumes so I can keep them in my pasture? The project offered these answers: The biggest change to rotational grazing is a change in management. But to get farmers to the point of changing their management, they have to be more comfortable with the new technology needed. Farmers like to get their hands on the wire, run water into the tank and see the legumes growing in a grass pasture. The opportunity for "hands on" field days coupled with another farmer talking with them makes farmers more ready to implement changes necessary for a sustainable rotational grazing system.

Producers see the forage diversity and learn from Jim Ahrens how he manages his pastures to achieve this diversity and make them more sustainable.

Dan Morrical, ISU animal scientist, in the field with producers at a winter meeting explaining how to manage stockpiled grazing.

5) Incorporate kura clover into a rotational grazing system. This demonstration gave producers an opportunity to witness the rhizomatous characteristics of kura clover and better understand why it has significant potential as a legume in a grass-based forage program. Producers could walk through the seeded area and observe without having to take the risk of trying to establish their own stand.

6) Conduct hands-on demonstrations of establishing a stream crossing/access. While producers see the benefits of excluding livestock from a stream, they are concerned about the process and cost of putting in a stream crossing. Producers at this demonstration helped a neighbor develop a stream crossing. They reviewed the costs and witnessed the products used and the time involved in this enterprise.

Results and discussion

1) Conduct a hands-on demonstration day for installing New Zealand-style electric fence. A field day was held in September 2000 at the Adams County CRP Farm, and another was held in September 2001 in cooperation with a private landowner who was implementing a rotational grazing system. In September 2002, 280 students from 10 area high school and college agriculture departments participated in these demonstrations, as well as demonstrations on water systems and grass establishment and management.

2) Conduct a hands-on demonstration day for installing a water distribution system. Three water demonstration days were held, one at the Adams County CRP Farm and two others hosted by private landowners. Farmers were intrigued with the idea of recycling used implement tires as water tanks. Various types of pumps, water siphons, and pressurized systems were displayed and installed.

3) Incorporate warm-season native grasses into an existing grazing system to diversify the forage and lengthen the grazing season. Native grasses (big bluestem, Indian grass, and eastern gamagrass) were incorporated into the grazing system at the Adams County CRP Farm in 2001. A July field day allowed area producers to see how much forage was available and what management tactics were effective. Another pasture walk was held in August 2002.

4) Demonstrate, in a multi-county area, the management necessary for establishment and maintenance of legumes into a grassed-based forage using a no-till drill. Events showcasing

legumes were held at the Adams County CRP Farm and on private land in Adair and Harrison Counties. A pasture walk at the Adams County CRP Farm in August 2002 emphasized the benefits of legumes adding diversity in predominately grass-based pastures.

5) Incorporate kura clover into a rotational grazing system. Kura clover can be very productive but calls for different methods of growth management. A paddock of kura clover was incorporated into the grazing system at the Adams County CRP Farm in 2001. A July field day acquainted farmers with the forage, and procedures for its establishment and management. A pasture walk was held in the same area in August 2002.

6) Conduct hands-on demonstrations of establishing a stream crossing/access. In 2001, demonstrations were held on three producers' farms related to limiting access for water in farm ponds. Participants had the opportunity to assist in constructing a "floating" electric fence water access as well as a water access using more conventional gates. Participants saw that limited access helps improve water quality and served as a safety feature for livestock. A similar event was held in June 2002.

Conclusions

Each project demonstration event focused on one component of a rotational grazing system. Participants were encouraged to use what they learned and incorporate the appropriate portions into their own grazing systems. Producers learned how to install and use fence and water systems. Demonstrations on how to establish and manage forages properly can help producers make their grazing systems more sustainable and profitable. Water system education showed producers how to create water access areas at a lower cost. Winter meetings and grazing clinics emphasized many of the concepts covered in the summer demonstrations.

Jim Ahrens explained to producers at his pasture walk how he manages a rotational grazing system.

Impact of results

Animal livestock will continue to be important to Iowa farmers. The 2002 Farm Bill has heightened interest in rotational grazing. Landowners and operators are more eager to learn about new technologies and how to implement these ideas into their own systems.

The Southern Iowa Forage and Livestock Committee (SIFLC) has been active in facilitating meetings on rotational grazing throughout Iowa. This project was one of the funding sources that made it possible for SIFLC and its partners to bring "nuts and bolts" information to producers' attention and offer hands-on training. It is difficult to measure the impact of these training opportunities in the short term, but reaction from participants at the various events has been very positive.

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Education and outreach

SIFLC has worked with other groups to sponsor numerous educational events in this area. Educational partners include Iowa State University Extension, Iowa Energy Center, Natural Resources Conservation Service, Iowa Beef Center, Environmental Protection Agency, Iowa Chapter of the Soil and Water Conservation Society, Iowa Forage and Grassland Council, and the North Central Regional of Sustainable Agriculture Research and Education (SARE). A special outreach program was implemented to offer hands-on grazing system establishment and management training to area high school and college agriculture students. More than 1000 people participated in these educational events in 2002.

The Adams County CRP Project annual reports published in 2000, 2001, and 2002 included information about this project. The 2000, 2001, and 2002 progress reports for the Iowa State University Agriculture and Home Economics Experiment Station each contained two articles about this project.